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Ser. No. 09/829,296

IN THE TITLE:

Please amend the title to read as follows: --RECHARGEABLE BATTERY
WITH TEMPERATURE CONTROLLED SWITCH--.

IN THE CLAIMS:

Please substitute for corresponding pending claims the claims as shown rewritten below with amendments effected therein. Appendix I is attached hereto having marked versions of said claims with amendments indicated by brackets and underlining.

1. (Amended) A non-aqueous electrolyte rechargeable battery, comprising:
an element for electromotive force including a positive electrode and a negative electrode;
a battery case for accommodating the element for electromotive force therein;
and
a switch element attached to the battery case and interposed in a circuit for connecting the battery to an external power source in an initial state of operation, the switch element operating, in response to a first change in temperature of the battery, to disconnect the battery from the circuit and establish a short circuit across the positive electrode and the negative electrode in a second state of operation, the switch

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element further operating to return to the initial state in response to a second change in temperature of the battery opposing that of said first change in temperature.

2. (Amended) The non-aqueous electrolyte rechargeable battery according to Claim 1, wherein the switch element includes:

a temperature-sensitive element;
a first conductive plate connected to one of the positive electrode and the negative electrode and disposed on one side of the temperature-sensitive element; and
a second conductive plate connected to the other one of the positive electrode and the negative electrode disposed on the other side of the temperature-sensitive element opposite from the first conductive plate, wherein the temperature-sensitive element is in contact with either one of the first conductive plate and the second conductive plate in the initial state of operation, and deforms to contact the other one of the first conductive plate and the second conductive plate in the second state of operation in response to a change in temperature of the battery.

4. (Amended) A non-aqueous electrolyte rechargeable battery comprising:
an element for electromotive force including an electrode of first polarity and an electrode of second polarity;

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a battery case having an open top end for accommodating the element for electromotive force, and being electrically connected to the electrode of first polarity; and

a closure assembly for closing the open top end of the battery case, including an external terminal, an internal terminal electrically connected to the electrode of second polarity, a switch element electrically connecting the external terminal and the internal terminal in an initial state, and a ring shaped conductive element electrically connected to the battery case and an electrical insulation electrically insulating the ring shaped conductive element from both of the external terminal and the internal terminal;

the switch element being responsive to a first temperature change to break connection to the external terminal and effect electrical contact with the ring shaped conductive element to establish a second state of operation, breaking electrical connection between the battery and an external power source and establishing a short circuit to cause the battery to discharge; and

the switch element being responsive to a second temperature change, opposing said first temperature change, to return to the initial state, re-establishing electrical connection between the battery and the external power source.

5. (Amended) A non-aqueous electrolyte rechargeable battery, comprising:

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an element for electromotive force including an electrode of first polarity and an electrode of second polarity;

a battery case having an open top end for accommodating the element for electromotive force, and being electrically connected to the electrode of first polarity; and

a closure assembly for closing the open top end of the battery case, including an external terminal, an internal terminal electrically connected to the electrode of second polarity, a switch element electrically connecting the external terminal and the internal terminal in an initial state, and a ring shaped conductive element electrically connected to the battery case and an electrical insulation electrically insulating the ring shaped conductive element from both of the external terminal and the internal terminal;

the switch element being responsive to a first temperature change to break connection to the external terminal and effect electrical contact with the ring shaped conductive element to establish a second state of operation, breaking electrical connection between the battery and an external power source and establishing a short circuit to cause the battery to discharge; and

the switch element being responsive to a second temperature change, opposing said first temperature change, to return to the initial state, re-establishing electrical connection between the battery and the external power source,

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wherein the electrical insulation between the ring shaped conductive element and the external terminal and the internal terminal is effected by a ring shaped gasket disposed on an inner peripheral side of the ring shaped conductive element, the external terminal and the internal terminal being arranged on an inner side of the ring shaped gasket, the ring shaped conductive element having an inwardly extending protrusion passing through a hole formed in the ring shaped gasket towards between the external terminal and the internal terminal.

6. (Amended) The non-aqueous electrolyte rechargeable battery according to Claim 5, wherein the switch element makes contact with the protrusion of the ring shaped conductive element to form the short circuit.